EXHIBIT C

UNITED STATES BANKRUPTCY COURT

SOUTHERN DISTRICT OF NEW YORK

In re: PURDUE PHARMA L.P., et al., Debtors.	Chapter 11 Case No. 19-23649 (RDD) (Jointly Administered)

EXPERT REPORT OF PHILIP GREEN

July 6, 2021

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I. Executive Summary

1. I have been retained by Debevoise & Plimpton LLP in connection with the bankruptcy proceedings of Purdue Pharma. L.P. ("Purdue Pharma" or "PPLP") and its affiliated entities. I have been asked to independently and objectively analyze certain aspects of the Expert Report of David W. DeRamus, Ph.D., issued on June 15, 2021 (the "DeRamus Report"). The DeRamus Report values certain intercompany transfers between PPLP and the Independent Associated Companies ("IAC") and other Sackler-owned entities.[1] These include: (i) royalty rates that the IACs paid Purdue Pharma on ex-U.S. sales of OxyContin from January 1, 2008 through September 15, 2019; (ii) the January 1, 2017 transfer of ex-U.S. non-abuse deterrent formulation ("ADF") OxyContin rights from Purdue Pharma to Pharmaceutical Research Associates L.P. ("PRA L.P."); and (iii) certain other royalty transactions identified in the DeRamus Report.

2. Prior to losing patent exclusivity, the IACs paid Purdue Pharma a royalty on ex-U.S. sales of non-ADF OxyContin of approximately 13% of net sales. Upon loss of exclusivity in 2013, this royalty rate was reduced to approximately 7% of net sales.[2] The royalty rate for ADF OxyContin, which has patent exclusivity through , is approximately 15% of net sales.[3]

3. The DeRamus Report asserts that these royalty rates are below a "reasonable arm's-length range" and therefore represent an underpayment to Purdue Pharma.[4] Specifically, the DeRamus Report concludes that an arm's-length royalty rate for patent-protected OxyContin is 25% of net sales, which decreases to 12.5% of net sales after loss of exclusivity.[5] In other words, the DeRamus Report asserts that the OxyContin agreements significantly undervalued the royalties and that the IAC's should have paid nearly twice as much (25% vs. 13% to 15% for patented OxyContin and 12.5% vs. 7% for non-ADF) in their respective markets.

4. The DeRamus Report ultimately determines that the total underpayment from the IACs to Purdue Pharma on ex-U.S. OxyContin royalties amounts to $486 million from January 1, 2008 through September 15, 2019.[6] Since the IACs actually paid Purdue Pharma $519 million in royalties over this period, the DeRamus Report asserts that Purdue Pharma should have received nearly double the consideration provided by the IACs for OxyContin-related intellectual property rights.[7]

5. Based on the materials I have reviewed to date, as well as my background, training, and experience, I have concluded that the DeRamus Report's analysis and conclusions regarding ex-U.S. OxyContin royalties and the related value is methodologically improper, speculative, and inconsistent with the facts. In particular, the analysis improperly excludes consideration of a relevant arm's-length license for OxyContin and is based on methodologically flawed regression and profit split analyses.

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[1] DeRamus Report, p. 2.
[2] PPLP-CONF-000025777-25804 at 25786; see also: IACS_0001250303-347 at 343; IACS_0001250348-393 at 388; IACS_0001250578-624 at 619; IACS_0001250763-808 at 803; IACS_0001251540-585 at 580; PPLP-CONF-000026011, tab '2010 and 2016 royalties.'
[3] DeRamus Report, Appendix A, p. 14; see also: PPLPUCC003833706-758 at 749; PPLP-CONF-000026011, tab '2010 and 2016 royalties.'
[4] DeRamus Report, p. 13.
[5] DeRamus Report, p. 11; DeRamus Report, Appendix A, p. 15.
[6] DeRamus Report, p. 11; DeRamus Report, Appendix A, p. 6.
[7] Based on the DeRamus Report's analyses. See: DeRamus Report, p. 11; DeRamus Report, Appendix A, p. 6; PLP-CONF-000025985.xlsx.

6. Counsel has informed me, and consistent with my experience, an evaluation of whether intercompany transfers represent arm's-length consideration typically involves analysis of whether such transfers are within a reasonable range of expected payments assuming the transactions occurred between unrelated third parties.[8] This is because each technology and its contribution to a product and the market for the product is often unique. Thus, royalty rates are evaluated in the context of the markets that a product serves and its contribution of the technology to that product and a range of royalties may fairly compensate for the use of technology. The concluded royalty rates presented in the DeRamus Report and the methodology used do not support the conclusion that the IACs' royalty payments to Purdue Pharma are outside a range of reasonable arm's-length royalty rates.[9]

7. Specific issues with the DeRamus Report's analyses include:

- The DeRamus Report does not properly consider an arm's-length license relating to OxyContin between Mundipharma B.V. ("Mundipharma") and & Co., Ltd. (" a Japanese pharmaceutical company (the "Mundipharma – License"). This third-party license covers the same product (OxyContin) and is also in an ex-U.S. territory, and therefore is an important data point for evaluating the reasonableness of the ex-U.S. OxyContin royalties paid by the IACs to Purdue Pharma. **The arm's-length royalty rates established by the Mundipharma – License are generally consistent with the royalty rates paid by the IACs to Purdue Pharma for OxyContin.** This suggests that the IACs' royalty payments to Purdue Pharma would be considered to be within a reasonable arm's-length range.

- The DeRamus Report's regression analysis is based on thirty-seven licenses. These licenses are not summarized accurately or completely, and therefore the inputs to the regression analysis are inaccurate and inconsistent with the facts. **Even as summarized in the DeRamus Report, the royalty rates paid by the IACs to Purdue Pharma are consistent with the range of effective royalty rates in the Identified Licenses (*i.e.*, within the quartile of royalties on which the conclusions in the DeRamus Report are based)**.[10]

- Given the limited set of 37 Identified Licenses and the specific facts and considerations associated with each, the DeRamus Report's use of a regression analysis is not appropriate in this matter. This is demonstrated by the fact that only one estimate in the DeRamus Report's regression analysis is identified as statistically significant – the "Base Royalty Rate" of 13.8% to 18.8%.[11] None of the identified royalty rate "adjustments" – which increase the Base Royalty Rate to the concluded royalty rate of 25% – are identified as

[8] Transfer pricing analyses are generally done to support issues related to taxation of entities that have operations in multiple tax jurisdictions. These studies are often used to support the amounts charged by one entity to another in a related group for services, goods, or rights.
[9] The September 10, 2018 transfer pricing analysis prepared by Horst Frisch similarly analyzes the IACs' royalty payments to Purdue Pharma in the context of a "range of arm's length royalties." See PPLP-CONF-000025777-25804 at 25782-25783.
[10] The term Identified Licenses refers to the 37 licenses identified in the DeRamus Report that are asserted to be comparable and are used as data points for the DeRamus Report's regression analysis.
[11] DeRamus Report, Appendix A, p. 39.

statistically significant, indicating that there is not sufficient support for their inclusion. Notwithstanding the issues with the regression analysis, **the royalty rates of 13% to 15% of net sales paid by the IACs to Purdue Pharma prior to loss of exclusivity are consistent with the Base Royalty Rate range of 13.8% to 18.8% of net sales from the DeRamus Report's regression analysis.**

- The "confirming" profit split analysis in the DeRamus Report is based, in large part, on a broad market study of royalty rates published by KPMG in 2012. That study concluded that royalty rates across industries tend to amount to between 25% of gross profit and 25% of operating profit for the licensee. **The royalties paid by the IACs, as calculated in the DeRamus Report, fall near the middle of the range identified by the KPMG Study**. Instead of focusing on that conclusion, the DeRamus Report inappropriately relies on a regression analysis in the KPMG Study that has limited predictive value due to a reported R^2 of 0.319.[12]

8. For these reasons, it is my opinion that the DeRamus Report's conclusion that Purdue Pharma was underpaid for ex-U.S. OxyContin rights is unsupported and inconsistent with the facts and analyses available to me.

9. I have also analyzed the DeRamus Report's valuation of Purdue Pharma's transfer of intellectual property rights relating to non-ADF OxyContin to PRA L.P. The DeRamus Report valued this transfer at $252 million as of January 1, 2017.[13] This valuation is based on the same regression, profit split, and other analyses used to determine the "market royalty rate" of 12.5% of net sales for ex-U.S. OxyContin rights after loss of exclusivity instead of the actual rate of 7%. Accordingly, I have also concluded that the DeRamus Report's valuation of the transfer of non-ADF OxyContin rights from Purdue Pharma to PRA L.P. is methodologically improper and unsupported.

10. Lastly, I have considered the DeRamus Report's analyses of several other royalty transactions for pharmaceutical products other than OxyContin. These products include Betadine, Senokot, MS Contin, Butrans, and Dilaudid. The DeRamus Report's analysis of these other royalty transactions concludes that Purdue Pharma "was not disadvantaged under the related-party license agreements relative to benchmarks from arm's-length agreements."[14] In fact, in several of these analyses, the DeRamus Report concludes that Purdue Pharma paid less than it would have paid in royalties if the royalty rate were set to be a "market royalty rate."[15] However, the DeRamus Report does not calculate the value of any underpayment by Purdue Pharma and does not identify any offsets to the asserted $1.4 billion of underpayments and transfers of value that are claimed to have been made to related parties outside the Debtor Group.

[12] KPMG International, "Profitability and Royalty Rates Across Industries: Some Preliminary Evidence." 2012, p. 11.
[13] DeRamus Report, p. 11.
[14] DeRamus Report, Appendix A, p. 81.
[15] DeRamus Report, p. 11.

II. Assignment and Information Considered

11. As noted above, I have been asked to independently and objectively analyze certain aspects of the Expert Report of David W. DeRamus, Ph.D., issued on June 15, 2021 (the "DeRamus Report"). The DeRamus Report values certain intercompany transfers between PPLP and the Independent Associated Companies ("IAC") and other Sackler-owned entities.[16] The DeRamus Report concludes that 16 intercompany transactions and transfers resulted in payments to Purdue Pharma that were lower than what one would expect if they had been between Purdue Pharma and unrelated third parties. The DeRamus Report concludes that, between January 1, 2008, and September 15, 2019, underpayments to Purdue Pharma and transfers of value to related parties outside the Debtor Group total $1.4 billion.[17]

12. To date, I have reviewed the DeRamus Report including the Appendices and certain of the documents cited in the DeRamus Report. I understand that certain data files, work papers, and other materials providing details on the DeRamus Report's regression and other analyses were recently produced. To date, I have not had sufficient opportunity to analyze certain of these materials, including the data and detail underlying the DeRamus Report's regression analyses. Further, I have not been provided, nor have I been asked to analyze, all of the materials referenced in the DeRamus Report. Exhibit A is a list of the documents and other information that I have considered in forming the opinions and conclusions presented in this report.

13. This report presents my preliminary analysis of financial, accounting, and economic factors relevant to the evaluation of certain intercompany agreements and transfers at issue within the scope of my assignment in this matter. The opinions expressed in this report are based on the reports and materials I have reviewed to date, in addition to my professional experience and training. To the extent additional information becomes available to me that affects my conclusions or opinions, I may supplement this report as appropriate. If asked, I may also supplement this report or respond to additional discovery, alternative calculations, or further revisions to the analyses and conclusions presented by Dr. DeRamus or other experts in this matter.

14. I have not been asked to provide, nor do I intend to provide, legal opinions related to the claims in this matter. Additionally, I do not intend to provide any opinions on financial, accounting, or economic issues beyond the scope of this report and any supplements that may be prepared.

III. Professional Experience, Qualifications, and Compensation

15. I am one of four founding principals in the consulting firm of Hoffman Alvary & Company LLC, located in Newton, Massachusetts. Prior to founding the firm in October 1996, I was a senior manager in the Dispute Analysis and Corporate Recovery Services practice of Price Waterhouse LLP, an international accounting and consulting firm. As part of my work, I am regularly involved in the valuation and licensing of intellectual properties including patents related to pharmaceuticals, consumer products, electronics, and software.

[16] DeRamus Report, p. 2.
[17] DeRamus Report, p. 36

16. For much of the past twenty years, my practice has focused on matters involving intellectual property. This work has generally included four categories of services: (1) valuation of intellectual properties for transactions and providing opinions regarding the fairness of the compensation paid for the use of an intellectual property; (2) licensing assistance, including developing monetization strategies and evaluation of deal terms; (3) royalty auditing; and (4) analysis of damages in infringement actions including the lost profits and reasonable royalties from allegations of patent infringement. My work in these areas includes analyses related to pharmaceuticals, medical devices, consumer products, software and hardware, among other industries and technologies.

17. I have a variety of experience related to the financial aspects of the pharmaceutical industries. My experience in the pharmaceutical industry includes assistance with developing licensing strategies and terms for the use of patented technologies. For example, I have worked with owners of patents for the use of chemical formulations of patented pharmaceuticals to develop licensing strategies and terms. I have also assisted a research entity to devise appropriate financial terms as it sought to "license in" technologies necessary for the development and marketing of a pharmaceutical. I have also worked on behalf of the research arms of two hospitals to assist with monetization of their patent portfolios. I have provided opinions as to whether the royalties paid for the use of inventions related to medical devices and pharmaceuticals are "fair."

18. In litigated matters, I have provided opinions as to whether a patented technology contributed to the commercial success of pharmaceuticals, evaluated reasonable royalties from patent infringement damages and computed lost profits. I have been retained in antitrust matters related to the markets for generic drugs and the effects of competition between generic and branded drug manufacturers. I have also been retained in bankruptcy matters to value intercompany interests in recoveries from the sales of business segments and intellectual properties.

19. My resume, a list of cases in which I have given testimony either in deposition or at trial over the past four years, and publications over the past 10 years are found on Exhibit B. I obtained my undergraduate degree in History from Rutgers College and received a Master of Business Administration degree with a concentration in Accounting from Rutgers Graduate School of Management. I am licensed as a Certified Public Accountant by the State of New York and have earned the Certified Management Accountant designation. I have also been accredited by the AICPA in Business Valuation ("ABV") and have earned the Accredited Senior Appraiser ("ASA") designation from the American Society of Appraisers in the Business Valuation discipline.

20. My firm, Hoffman Alvary & Company LLC, is being compensated at the rate of $675 per hour for my work on this engagement. Neither my compensation, nor that of my firm, is affected by the outcome of this matter.

IV. Background

A. Bankruptcy of Purdue Pharma L.P. and Related Entities

21. On September 15, 2019, Purdue Pharma L.P., along with its general partner Purdue Pharma Inc., and its wholly-owned direct and indirect subsidiaries, filed for Chapter 11 bankruptcy.[18] The Debtor's Chapter 11 cases are being jointly administered under *In re Purdue Pharma L.P., et al.* Case No. 19-23649. I understand the Debtors have continued to maintain their possessions and business operations.

B. Overview of Certain Licenses and Transfers at Issue

1. Ex-U.S. OxyContin Royalty Payments to Purdue Pharma

22. In the late 1990s, Purdue Pharma licensed to the IACs the rights to manufacture, sell, and distribute non-ADF forms of OxyContin. Subsequent agreements granted the IACs the rights to manufacture, sell, and distribute ADF Oxycontin.[19]

23. Mundipharma is a member of a global network of IACs which facilitate the research, development, production and marketing of prescription medicines and consumer healthcare products.[20] Mundipharma is headquartered in the U.K. and has a distribution network of over 120 countries across Europe, Africa, Asia, Canada, Latin America, and the Middle East.[21] According to its website, Mundipharma's worldwide annual sales total approximately $2 billion.[22]

24. Prior to losing patent exclusivity in 2013, Purdue Pharma received from the IACs royalties of 13% of net sales on non-ADF OxyContin. After the loss of exclusivity in 2013, this royalty rate was reduced to 7% of net sales.[23] The royalty rate that Purdue Pharma receives for ADF OxyContin, which has patent exclusivity until , is approximately 15% of net sales.[24]

25. From January 1, 2008 to September 15, 2019, Purdue Pharma received a total of $622 million in net royalties, $615 million of which were attributable to ex-U.S. OxyContin sales. Of these ex-U.S. sales, $519 million were from IACs, and $96 million were from third-party sales by Japanese pharmaceutical company

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[18] See *Purdue Pharma L.P., et al.*'s Voluntary Petition for Non-Individuals Filing for Bankruptcy, dated Sept. 15, 2019. Docket Entries 1-24.
[19] See, for example, Expert Report of David DeRamus ("DeRamus Report"), pp. 3, 13.
[20] Mundipharma, "About Us," (2015) accessed at: https://www.mundipharma.com.au/about-us/.
[21] Mundipharma, "Mundipharma at a Glance," (2021) accessed at: https://www.mundipharma.com/sites/mundi-pharma/files/about-us/mundipharma-at-a-glance-v2-march-final.PDF.
[22] Mundipharma, "Mundipharma at a Glance," (2021) accessed at: https://www.mundipharma.com/sites/mundi-pharma/files/about-us/mundipharma-at-a-glance-v2-march-final.PDF.
[23] PPLP-CONF-000025777-25804 at 25786; see also: IACS_0001250303-347 at 343; IACS_0001250348-393 at 388; IACS_0001250578-624 at 619; IACS_0001250763-808 at 803; IACS_0001251540-585 at 580; PPLP-CONF-000026011, tab '2010 and 2016 royalties.'
[24] DeRamus Report, Appendix A, p. 14; see also: PPLPUCC003833706-758 at 749; PPLP-CONF-000026011, tab '2010 and 2016 royalties.'.

26. The DeRamus Report concludes that these royalty payments were lower than what unrelated parties would have paid to Purdue Pharma.[25] Specifically, the DeRamus Report concludes that from January 1, 2008 through September 15, 2019 the total underpayment from the IACs to Purdue Pharma for ex-U.S. rights to OxyContin amounts to $486 million.[26]

2. Transfer of Intellectual Property Rights Covering Non-ADF OxyContin

27. On January 1, 2017, Purdue Pharma entered into a series of assignment agreements with PRA L.P., pursuant to which Purdue Pharma transferred its rights, title, and interest of non-ADF OxyContin under the applicable license agreements with foreign IACs. Specifically, Purdue Pharma assigned the rights to non-ADF OxyContin in 30 different countries across Asia, Europe, Africa, Oceania, and the Middle East. It is asserted that Purdue Pharma did not receive consideration for these agreements.[27]

28. The DeRamus Report valued the intellectual property rights relating to non-ADF OxyContin sold outside the U.S. at $252 million as of January 1, 2017.[28]

3. Other Intercompany Agreements and Transfers

29. Purdue Pharma and the Debtor Group were involved in other intercompany agreements and transfers. These agreements and transfers include, but are not limited to, royalty payments on other pharmaceuticals, asset sales and transfers, equity transfers, and the provision of services such as administrative, purchasing, tax, contract research, and other services.

30. The DeRamus Report finds that Purdue Pharma was not disadvantaged by the other royalty agreements. The DeRamus Report also concludes that the costs and markups paid in the other transfers and agreements were generally consistent with arm's-length dealings, with a few "relatively limited exceptions."[29] I have not been asked to evaluate the values potentially associated with the equity transfers at issue in this matter.

V. Opinion and Related Support

Opinion: Based on the materials I have reviewed to date, as well as my background, training, and experience, I have concluded that the DeRamus Report's analysis and conclusions regarding ex-U.S. OxyContin royalties and the related value is methodologically improper, speculative, and inconsistent with the facts. In particular, the analysis improperly excludes consideration of a relevant arm's-length license for OxyContin and is based on methodologically flawed regression and profit split analyses.

31. The DeRamus Report provides analysis of the value of intercompany transfers between Purdue Pharma and the IACs. As part of this assignment, the DeRamus Report evaluated whether Purdue

[25] DeRamus Report, p. 13.
[26] DeRamus Report, p. 11; DeRamus Report, Appendix A, p. 6.
[27] DeRamus Report, p. 18; Appendix A, p. 110; see also, Amended Disclosure Statement for First Amended Chapter 11 Plan for Purdue Pharma L.P. and its Affiliated Debtors, Docket Entry 2789-1, dated April 30, 2021, p. 111.
[28] DeRamus Report, p. 11.
[29] DeRamus Report, p. 24.

Pharma received arm's-length value for certain intercompany and non-cash transfers. In total, the DeRamus Report analyzed 37 transfers – 27 intercompany transactions and 10 non-cash transfers. The DeRamus Report concludes that 16 of the 37 transactions resulted in payments to Purdue Pharma that were lower than the range that one would expect for arm's-length transactions between unrelated parties.[30] In total, the DeRamus Report concludes that underpayments to Purdue Pharma total $1.4 billion between 2008 and September 15, 2019.[31]

32. I have been asked to analyze the DeRamus Report's evaluation of certain intercompany transfers involving Purdue Pharma. These include: (i) royalty rates that the IACs paid Purdue Pharma on ex-U.S. sales of OxyContin from January 1, 2008 through September 15, 2019; (ii) the January 1, 2017 transfer of ex-U.S. non-ADF OxyContin rights from Purdue Pharma to PRA L.P; and (iii) royalty rates received by Purdue Pharma for certain other drugs identified in the DeRamus Report. The two categories of transfers related to OxyContin account for approximately 50% of the $1.4 billion in total underpayments to Purdue Pharma presented by the DeRamus Report.[32]

33. Based on the documents and other information that I have considered, in my opinion, the DeRamus Report's analyses of these intercompany transfers are methodologically improper, speculative, and inconsistent with the facts. The following sections present specific issues with the DeRamus Report's analysis of these intercompany transfers.

A. Analysis of Ex-U.S. OxyContin Royalties Paid to Purdue Pharma

1. Overview of the DeRamus Report's Analysis and Findings

34. The DeRamus Report presents analyses of the reasonableness of royalties paid by the IACs to Purdue Pharma related to OxyContin.[33] The royalty rates paid by the IACs to Purdue Pharma on ex-U.S. sales of OxyContin while it was under exclusivity were approximately 13% of net sales between 2008 and 2012.[34] After 2012, the royalty rate paid by IACs to Purdue Pharma under patent exclusivity amounted to approximately 15% of net sales.[35] In addition, during the period after 2012 when Purdue Pharma's "core composition intellectual property expired," the royalty rates paid by IACs for non-ADF OxyContin were approximately 7%.[36] Based on its analysis, the DeRamus Report concludes that the IACs underpaid Purdue Pharma for rights to manufacture and sell OxyContin outside of the U.S.[37] Specifically, the DeRamus Report concludes:[38]

> [T]he royalty rates IACs paid for OxyContin sales were lower than what would have been reasonable given comparable arm's-length agreements between unrelated parties. Our analysis suggests that an arm's-length royalty rate for patent-protected OxyContin is 25%, which is reduced to 12.5% after the patents expire.

[30] DeRamus Report, p. 11.
[31] DeRamus Report, p. 11.
[32] DeRamus Report, p. 36
[33] DeRamus Report, Appendix A, p. 14.
[34] DeRamus Report, p. 14.
[35] DeRamus Report, p. 14. See also: PPLPUCC003833706-758 at 749.
[36] DeRamus Report, p. 14. See also: IACS_0001250303-347 at 343; IACS_0001250348-393 at 388; IACS_0001250578-624 at 619; IACS_0001250763-808 at 803; IACS_0001251540-585 at 580; PPLP-CONF-000026011, tab '2010 and 2016 royalties'.
[37] DeRamus Report, Appendix A, p. 15.
[38] DeRamus Report, Appendix A, p. 15.

35. The DeRamus Report concludes that the total underpayment from the IACs to Purdue Pharma on ex-U.S. OxyContin royalties from 2008 through September 15, 2019 amounts to $486 million.[39] This conclusion is based on two primary approaches: (i) analysis of consideration paid in certain third-party licensing transactions; and (ii) comparison of the implied profit split between IACs and Purdue Pharma and the profit splits observed for purportedly similar third-party arrangements.[40]

36. As presented in the following sections, the analyses supporting the DeRamus Report's conclusion that the IACs underpaid Purdue Pharma for ex-U.S. OxyContin rights are methodologically improper, speculative, and inconsistent with the facts. The DeRamus Report's analyses do not support the conclusion that the IACs' royalty payments to Purdue Pharma are outside a reasonable arm's-length range.

2. The DeRamus Report Fails to Properly Consider Mundipharma's Arm's-Length License with

37. The DeRamus Report's analysis of the IACs' royalty payments to Purdue Pharma for ex-U.S. OxyContin rights considers the 37 Identified Licenses to be "comparable" or "similar" third-party transactions. However, despite focusing on the Identified Licenses, the DeRamus Report fails to properly consider a relevant arm's-length third-party license relating to OxyContin between Mundipharma and a pharmaceutical company with operations in Japan.

38. Dated December 12, 1992, the Mundipharma – License granted the exclusive right to manufacture, package, use, distribute, market, and sell OxyContin in Japan.[41] Pursuant to this agreement, received rights to patents, trademarks, and know-how relating to OxyContin.[42] The 1992 agreement specified a royalty rate of 10.0% of net sales for the period of ten years from the date of first commercial sale of OxyContin by (the "Initial Term"). The royalty rate for the five years following the Initial Term (the "Extension Term") decreased to 6.25% of net sales. The 1992 agreement did not establish a royalty rate for the period after the Extension Term (the "Continuation Term").[43] The agreement also specified an initial fee of $1,000,000, along with minimum royalty payments upon commercialization.[44] Furthermore, agreed to complete registration in Japan for OxyContin, which included carrying out a development plan. was to cover all expenses associated with obtaining registration, including expenses associated with additional clinical trials.[45]

39. The Mundipharma – License was amended in 1997 and again in 2001. The 1997 amendment increased the royalty rate to 12.5% of net sales for the Initial Term and 8.75% of net sales for the Extension Term.[46] The 2001 amendment further increased the royalty rate to 15% for the Initial Term and 10% for the Extension Term.[47] The 2001 amendment also established that Mundipharma and would evenly split development costs associated with non-cancer pain

[39] DeRamus Report, p. 11; DeRamus Report, Appendix A, p. 6.
[40] DeRamus Report, Appendix A, pp. 16-18.
[41] IACS_0001254692-722 at 697, 699.
[42] IACS_0001254692-722 at 699-700.
[43] IACS_0001254692-722 at 701.
[44] IACS_0001254692-722 at 701; 703.
[45] IACS_0001254692-722 at 707.
[46] PPLP-CONF-000025777-25804 at 25788.
[47] IACS_0001254578-587 at 578.

indications.[48] Additionally, pursuant to the 2001 amendment, Mundipharma had the option to co-promote OxyContin in Japan. agreed to pay Mundipharma a fee of 10% of net sales to fund co-promotion activities.[49]

40. The following table summarizes the royalty rates established by the Mundipharma – License and subsequent amendments:

Mundipharma – License Royalty Rates as a Percentage of Net Sales		
	Initial Term *(Years 1-10)*	**Extension Term** *(Years 11-15)*
License Agreement – 1992	10.00%	6.25%
Amendment to License Agreement – 1997	12.50%	8.75%
Amendment to License Agreement – 2001	15.00%	10.00%

41. The Mundipharma – License covers the same product in ex-U.S. territory, and the arm's-length royalty rates established by the agreement are generally consistent with the royalties paid by the IACs to Purdue Pharma. Transfer pricing analyses conducted by Horst Frisch also conclude that the Mundipharma – License (referred to as a "Closely Comparable Transaction") indicates that the ex-U.S. OxyContin royalties paid by the IACs to Purdue Pharma are commercially reasonable.[50]

42. The DeRamus Report acknowledges the terms of the Mundipharma – License and notes that it represents an arm's-length third-party agreement.[51] However, the DeRamus Report fails to substantively consider the relevance of this agreement to its analysis of the reasonableness of ex-U.S. royalties paid by the IACs. In particular, the DeRamus Report fails to appropriately consider that, similar to the agreements between the IACs and Purdue Pharma, the Mundipharma – License is for ex-U.S. OxyContin.

43. In my experience, when evaluating royalty rates involving a particular intellectual property, it is appropriate to consider the rates that actually have been agreed to for that particular intellectual property. While the amounts that have been agreed to for other intellectual properties between third-parties may be relevant, absent a justifiable rationale, reliance on such third-party agreements to the exclusion of actual agreements for the intellectual property at issue is not an appropriate methodology. This is in part because intellectual properties by their nature are unique and the economic benefit from the use of an intellectual property also can be unique to it. The DeRamus Report provides no explanation for why the Mundipharma – License has been effectively excluded from its analysis, nor does it reconcile its conclusions regarding royalty rates to the terms

[48] IACS_0001254578-587 at 581. In its transfer pricing analysis, Horst Frisch noted that the royalty rates specified in the Mundipharma – License were increased in response to failure to commercialize the licensed product in the agreed-upon time period. See, for example, PPLP-CONF-000025777-25804 at 25781, fn. 4.
[49] IACS_0001254578-587 at 582-83.
[50] See, for example, PPLP-CONF-000025777-25804 at 25780-25782.
[51] DeRamus Report, Appendix A, pp. 47-49.

of this agreement. This issue renders the DeRamus Report and its conclusions regarding the ex-U.S. OxyContin royalties paid by the IACs unsupported and in my opinion not reliable.[52]

3. The DeRamus Report's Analysis of the Identified Licenses is Unreliable

44. The DeRamus Report's analysis of potentially comparable licenses is based on a selection of publicly available license agreements in the pharmaceutical industry.[53] This selection began with approximately 4,000 potential agreements, and after filtering for certain criteria, resulted in only 27 license agreements. The DeRamus Report then identifies an additional 10 arm's-length agreements for a total of 37 purportedly Identified Licenses.[54] No discussion is provided as to why the additional 10 licenses were added to the analysis.

45. These Identified Licenses are the basis of two approaches to assessing the reasonableness of the ex-U.S. OxyContin royalties paid to Purdue Pharma: (i) ranges of potentially comparable market royalty rates; and (ii) a multivariable regression analysis.[55] As discussed, based on a review of the Identified Licenses, the DeRamus Report concludes that an arm's-length royalty rate for a license to manufacture, sell, and distribute patent-protected OxyContin in ex-U.S. markets would be approximately 25% of net sales prior to the loss of exclusivity.[56]

46. The DeRamus Report's identification and analysis of the 37 Identified Licenses is not reliable for the purpose of analyzing the reasonableness of the royalty payments from the IACs to Purdue Pharma on ex-U.S. sales of OxyContin. Specific issues with the DeRamus Report's analysis of the Identified Licenses include:

- Identification of Ex-U.S. Licenses and Royalty Rates is Not Reliable: The DeRamus Report notes that ex-U.S. markets are generally associated with lower royalty rates. The DeRamus Report therefore considers the geographic scope of the Identified Licenses when evaluating potential comparability.[57] While analyzing geographic scope may be appropriate, the DeRamus Report fails to properly identify the licensed territories for the Identified Licenses. Specifically, the DeRamus Report indicates that 19 of the 37 Identified Licenses are ex-U.S.[58] However, the characterization of these 19 licenses as ex-U.S. is inconsistent with the facts. Based on my review of the Identified Licenses included by the DeRamus Report, it appears that of the 19 purportedly ex-U.S. licenses, six licenses are

[52] Furthermore, I note that the DeRamus Report also does not properly consider a third-party license agreement between Mundipharma and covering OxyContin TR and Targin in Japan, dated November 18, 2013. This license agreement establishes royalty rates for both products of 15% of net sales for the Initial Term and 12.5% of net sales for the Extension Term. The agreement also specifies that will pay additional royalties of up to 2.25% of net sales on OxyContin TR relating to Mundipharma's royalties to . See IACS_0001254589-4679. The DeRamus Report fails to appropriately consider this license in evaluating the IACs' royalty payments to Purdue Pharma on ex-U.S. OxyContin sales. The 2013 license between Mundipharma and covers oxycodone-related products in an ex-U.S. territory, and the arm's-length royalty rates established by the agreement are generally consistent with the royalties paid by the IACs to Purdue Pharma.

[53] Page 34 of Appendix A to the DeRamus Report lists the criteria used to select the 27 publicly available Identified Licenses.

[54] DeRamus Report, Appendix A, p. 34.

[55] DeRamus Report, pp. 5-6. See also DeRamus Report, Appendix A, pp. 36-43.

[56] DeRamus Report, p. 13.

[57] DeRamus Report, Appendix A, p. 17.

[58] DeRamus Report, Appendix A, p. 43.

actually worldwide licenses and therefore include U.S. rights.[59] This means that 24 of the 37 licenses included in the DeRamus Report include some form of U.S. rights, which are acknowledged in the DeRamus Report to be greater than those that would be associated with ex-U.S. markets.

- Since the DeRamus Report notes that ex-U.S. markets are generally associated with lower royalty rates, mischaracterizing agreements as ex-U.S. instead of worldwide tends to overstate the royalty rates associated with purportedly ex-U.S. sales. Similarly, DeRamus Report improperly characterizes certain licenses as covering U.S. rights only. Of the 18 purportedly U.S.-only licenses, eight licenses actually include Canada and/or Mexico as covered territories.[60] Furthermore, the DeRamus Report improperly characterizes one license covering North America territories as ex-US.[61] The DeRamus Report's failure to properly identify and account for the geographic coverage for the Identified Licenses indicates that the results of the DeRamus Report's regression analysis and the summary statistics related to the ex-U.S. Identified Licenses are overstated and unreliable.[62]

- Fails to Include Relevant Licenses: The DeRamus Report's analysis of the 37 Identified Licenses fails to consider other publicly available licenses related to pain therapies. In particular, despite acknowledging that the Mundipharma – License is a relevant, arm's-length, third-party license, the DeRamus Report does not include it in the Identified License analysis.[63] Furthermore, the DeRamus Report's Identified License analysis fails to consider other relevant third-party licenses related to pain therapies. For example, a preliminary review indicates that other license agreements related to pain products were excluded from the analysis in the DeRamus Report.[64] The exclusion of relevant licenses with no explanation indicates that the DeRamus Report's selection of the Identified Licenses is methodologically flawed.

- Improperly Includes a Non-Arm's-Length License Agreement: The DeRamus Report asserts that the 37 Identified Licenses are limited to agreements with arm's-length relationships between the licensor and licensee. However, my analysis indicates that the DeRamus Report improperly includes a non-arm's-length transaction. Specifically, the 2015 license agreement between Elite Pharmaceuticals Inc. ("Elite") and Epic Pharma LLC ("Epic") for Oxycodone HCl IR with sequestered naltrexone was executed in the context of

[59] Exhibit C. See also PPLP-CONF-000025975.xlsx.
[60] Exhibit C. See also PPLP-CONF-000025975.xlsx.
[61] Exhibit C. See also PPLP-CONF-000025975.xlsx.
[62] DeRamus Report, Appendix A, pp. 39, 43.
[63] DeRamus Report, Appendix A, pp. 44-46.
[64] Examples of such agreements include: the 2007 License, Development and Commercialization Agreement between Acura Pharmaceuticals and King Pharmaceuticals, Inc. for Oxycodone HCl with Aversion® Composition, a product approved at that time for Phase III clinical trials, which stipulated a royalty of 5-25% of net sales, $30 million upfront payment, and milestone payments; the 2005 Amended and Restated Distribution and License Agreement between XenoPort, Inc. and Astellas Pharma Inc. for pre-approval gabapentin enacarbil, which stipulated royalty of 13-18% of net sales, $25 million upfront payment, and up to $60 million in milestone payments; and the 2008 Exclusive License Agreement between Depomed, Inc. and Solvay Pharmaceuticals, Inc. for Gabapentin GR®, a product then in Phase III development, which stipulated a royalty of 14-20% of net sales, $25 million upfront payment, and up to $370 million in milestone payments. These example agreements are based on my preliminary research and appear to meet the criteria of the comparable royalty rate analysis in the DeRamus Report. See DeRamus Report, Appendix A, p. 34.

an ongoing partnership between the parties.[65] In 2009, Elite entered into a "Strategic Alliance Agreement" with Epic to pursue FDA approval for new drug products.[66] This complex agreement included acquisitions of equity interests, intellectual property and asset transfers, and royalty and milestone payments, among other terms.[67] The ongoing "strategic alliance" between Elite and Epic indicates that the 2015 license agreement between the parties is not arm's-length.[68] The 50% effective royalty rate for the Elite – Epic License concluded by the DeRamus Report is the highest royalty rate included in the DeRamus Report's 37 Identified Licenses.

47. These issues indicate that that the DeRamus Report's analyses of royalty rates in the Identified Licenses, including both the summary statistics and the multivariable regression, are not reliable.

48. Despite the foregoing issues, the effective royalty rates in the Identified Licenses selected by the DeRamus Report are generally consistent with the royalty rates paid by the IACs to Purdue Pharma for ex-U.S. OxyContin rights. Specifically, the DeRamus Report summarizes the effective royalty rates for the Identified Licenses by presenting an interquartile range. This is the range of effective royalty rates that fall between the 25th and 75th percentiles. In essence, this represents the range that encompasses the middle 50% of the data points with the top and bottom 25% being excluded. As shown following chart, the royalty rates paid by the IACs to Purdue Pharma for ex-U.S. OxyContin rights are consistent with the interquartile range calculated in the DeRamus Report. In other words, the royalty rates are in the range of the middle 50% of the observed values in the Identified Licenses.

Comparison of the Effective Royalty Rates for the DeRamus Report's Identified Licenses to the Royalty Rates Paid by IACs to Purdue Pharma
(During Exclusivity Period)

	Interquartile Range[69] *(25th to 75th Percentile)*
DeRamus Report: All Identified Licenses (N=37)	15% to 26%
DeRamus Report: Pain-Related Identified Licenses (N=14)	16% to 29%
DeRamus Report: Ex-U.S. Identified Licenses (N=19)	13% to 25%
Royalty Rate Paid by IACs to Purdue Pharma	**13% to 15%**

49. The DeRamus Report suggests that the OxyContin royalties should be "in the upper part of that range with other comparable late-stage pain products."[70] Such conclusions would need to be based on more complex analysis involving review of the technologies licensed, evaluation of alternatives

[65] The 2015 license agreement between Elite Pharmaceuticals Inc. and Epic Pharma LLC may be referred to as the "Elite – Epic License."
[66] Elite Pharmaceuticals' 10-K for the fiscal year ended March 31, 2010, pp. 8, 12; Elite Pharmaceuticals, Inc. "Elite Announces Signing of Strategic Alliance Agreement," accessed at: https://elite.irpass.com/profiles/investor/ResLibraryView.asp?ResLibraryID=74952&GoTopage=18&Category=2163&BzID=2258&G=939.
[67] Elite Pharmaceuticals' 10-K for the fiscal year ended March 31, 2010, pp. 33-37.
[68] Elite Pharmaceuticals' 10-K for the fiscal year ended March 31, 2016, pp. 96-98.
[69] DeRamus Report, Appendix A, p. 40.
[70] DeRamus Report, Appendix A, page 36.

to the use of the licensed technologies, the markets for the products and other factors that are not fully considered in the DeRamus Report. The DeRamus Report thus provides no support for this expectation that the OxyContin royalties should be at or above the "upper end" of the range. Of note, for many years, the calculated "Market Royalty Rate with R&D" adjustment in the DeRamus Report results in a royalty rate that exceeds the effective royalty rate identified as the 75th percentile.[71]

50. In addition, several factors suggest that a lower royalty rate is appropriate.[72] These factors include, but are not limited to:

- The extent of the IACs' contribution to the development and marketing of OxyContin in ex-U.S. markets;
- The availability of shared corporate resources and marketing initiatives between the IACs and Purdue Pharma; and
- The availability of generic alternatives for non-ADF OxyContin in ex-U.S. markets.

51. The DeRamus Report fails to consider such factors and their effect on the appropriate royalty rate for ex-U.S. Oxycontin rights paid to Purdue Pharma.

52. Furthermore, a preliminary search of publicly available pharmaceutical royalty rates indicates that the ex-U.S. OxyContin royalties paid by the IACs are consistent with typical industry rates for post-proof of concept, marketed products for ex-U.S. sales.[73] Examples of publicly available industry sources include:

- BioPharmaceutical Royalty Rates and Deal Terms Survey (June 2008): This royalty rate survey indicates an average fixed royalty rate of 11.6% and a median fixed royalty rate of 7.5% for six licenses relating to marketed, post proof-of-concept products.[74]

- BioPharma Royalty Rate Survey (September 2011): This survey indicates an average flat royalty rate of 14.6% for registered/marketed product deals, with a median flat royalty rate of 15%.[75] In addition, for deals in post-proof of concept development – but before the

[71] For Market Royalty Rates with the R&D Adjustment, see DeRamus Report, Appendix A, page 74.
[72] See Section A.7 for a discussion of additional factors that may affect the appropriate royalty rate in a licensing transaction relating to pharmaceutical products.
[73] "Proof-of-concept" is the point at which a pharmaceutical product has completed Phase 2 clinical studies and is ready to enter Phase 3 clinical trials. If a product is registered/marketed, the product has completed Phase 3 clinical trials, the last phase of clinical research, and has been marketed for sale. (See: McCarthy, J., and Bonifant, B. "A Review of the Global BioPharmaceutical Royalty Rates and Deal Terms Survey: Licensing Executives Society (U.S.A. and Canada), Inc. and Licensing Executives Society International (LESI)," *les Nouvelles* (2011): 251-262, p. 257).
[74] 2007 LES BioPharmaceutical Royalty Rates and Deal Terms Survey, *Licensing Executives Society (U.S.A. & Canada), Inc.* (2008): p. 26. I note that these six licenses are defined as "Group 5," or marketed products that have received approval, as defined on page 23 of the document.
[75] McCarthy, J., and Bonifant, B. "A Review of the Global BioPharmaceutical Royalty Rates and Deal Terms Survey: Licensing Executives Society (U.S.A. and Canada), Inc. and Licensing Executives Society International (LESI)," *les Nouvelles* (2011): 251-262, p. 257.

final "registered/marketed" stage – this survey indicated an average flat royalty rate of 14% and a median rate of 16%.[76]

- Global Life Sciences Royalty Rates and Deal Terms Survey (February 2017): This royalty rate survey indicates an average flat royalty rate of 12% and a median flat royalty rate of 7% for 22 licenses relating to registered/launched pharmaceutical products.[77]

53. The DeRamus Report fails to explain why its concluded arm's-length royalty rate of 25% of net sales for ex-U.S. sales of OxyContin is not consistent with industry averages noted in publicly available sources.

4. The DeRamus Report's Regression Analysis Suffers from Methodological Flaws

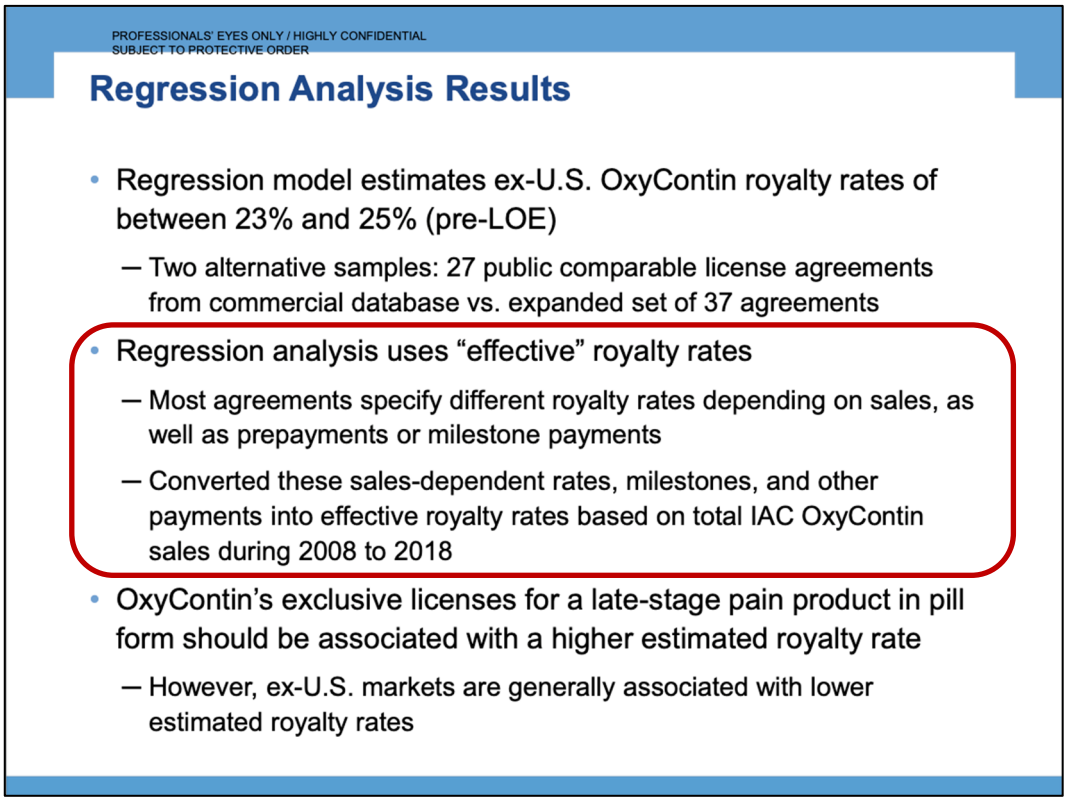
54. The DeRamus Report uses a regression analysis of the 37 Identified Licenses to determine an "expected market royalty" rate of 25% of sales for ex-U.S. OxyContin rights.[78] Based on my review, the DeRamus Report has not properly applied a regression analysis in this matter. Although a regression analysis can be an appropriate tool in certain circumstances, given the limited set of Identified Licenses and the specific facts and complexity associated with each agreement, the DeRamus Report's use of a regression analysis is not appropriate in this matter. In my experience negotiating and analyzing license agreements, pharmaceutical licenses tend to result from complex negotiations between the parties that can involve numerous, specific contract terms that benefit one or both parties. The complexity of the agreements, the different market factors underlying each, and the number of important negotiated terms, make the Identified Licenses as summarized not appropriate for the type of regression analysis applied in the DeRamus Report.

55. As discussed in subsequent sections, the inappropriateness of the DeRamus Report's regression analysis is demonstrated by the fact that none of the explanatory variables are identified as being statistically significant. The only estimate that is identified as statistically significant is the intercept term – the "Base Royalty Rate" of 13.8% to 18.8%.[79] The DeRamus Report does not explain why a regression model is methodologically appropriate to use in analyzing the 37 Identified Licenses, as opposed to reviewing each agreement independently and evaluating how the present royalty terms inform an appropriate "market rate." The misapplication of a regression analysis in this matter renders the results of the analysis unreliable.

56. In addition to this overall methodological issue, the DeRamus Report's regression analysis suffers from other calculation and conceptual issues. First, the regression analysis in the DeRamus Report's calculation of "effective" royalty rates for the 37 Identified Licenses is flawed. This calculation involves converting sales-dependent royalty rates, milestone payments, and other payments into effective royalty rates.[80] However, the calculation of effective rates for these agreements is speculative and inconsistent with the facts associated with the individual licenses.

[76] McCarthy, J., and Bonifant, B. "A Review of the Global BioPharmaceutical Royalty Rates and Deal Terms Survey: Licensing Executives Society (U.S.A. and Canada), Inc. and Licensing Executives Society International (LESI)," *les Nouvelles* (2011): 251-262, p. 257.
[77] 2016 Global "Life Sciences" Royalty Rates & Deal Terms Survey, *Licensing Executives Society USA/Canada, (2017):* pp. 46-48.
[78] DeRamus Report, Appendix A, p. 36.
[79] DeRamus Report, Appendix A, p. 39.
[80] DeRamus Report, Appendix A, p. 37.

Below is a page from Appendix A to the DeRamus Report that describes the calculation of effective royalty rates for the 37 identified comparable licenses [emphasis added].[81]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Regression Analysis Results

- Regression model estimates ex-U.S. OxyContin royalty rates of between 23% and 25% (pre-LOE)
  - Two alternative samples: 27 public comparable license agreements from commercial database vs. expanded set of 37 agreements
- Regression analysis uses "effective" royalty rates
  - Most agreements specify different royalty rates depending on sales, as well as prepayments or milestone payments
  - Converted these sales-dependent rates, milestones, and other payments into effective royalty rates based on total IAC OxyContin sales during 2008 to 2018
- OxyContin's exclusive licenses for a late-stage pain product in pill form should be associated with a higher estimated royalty rate
  - However, ex-U.S. markets are generally associated with lower estimated royalty rates

57. As shown above, the DeRamus Report calculated effective royalty rates by applying the total IAC OxyContin sales from 2008 through 2018 to each of the asserted comparable licenses.[82] That is, rather than consider the sales of the actual products licensed under each agreement (for which the royalty terms would actually apply), sales levels of ex-U.S. OxyContin are considered. No explanation is provided for this approach, nor is any analysis presented regarding how the use of OxyContin sales may affect the "effective royalty rates" calculated by the DeRamus Report like other products.

58. Based on the Identified Licenses, this approach is methodologically inappropriate. My analysis indicates that the Identified Licenses tend to have tiered royalty rates that increase with sales. In addition, I note that many of the Identified Licenses in the DeRamus Report are for pharmaceutical products with lower expected sales than OxyContin. Accordingly, the DeRamus Report's use of actual ex-U.S. OxyContin sales by the IACs results in an unreliable and overstated effective royalty rate. In particular, this approach results in unreliable effective royalty rates that are not consistent with the expected sales levels of the products licensed in the 37 Identified Licenses. Unlike OxyContin, certain Identified Licenses relate to more limited patient populations.

[81] DeRamus Report, Appendix A, p. 37.
[82] DeRamus Report, Appendix A, p. 37.

59. For example, in 1997, Biotime Inc. licensed Hextend to Abbott Laboratories (the "Hextend License").[83] Hextend is indicated for use in cases of hypovolemia, or shock from hemorrhage or fluid loss, in a clinical setting. This condition affects 0.03-0.07% of people annually.[84] The payment terms in the Hextend License reflect this limited patient population. Specifically, the license denotes an upfront payment of $1,000,000 plus up to $1,500,000 in milestone payments.[85] The Hextend Agreement includes a base royalty rate of 5%, increasing 0.22% for every million dollars of sales up to a maximum royalty of 36% of net sales.[86] This agreement also includes increasing additional license fees of 5% of net sales over $15 million and up to $30 million of annual net sales, and license fees of 10% of net sales over $30 million of annual net sales, with a maximum annual license fee of $37.5 million.[87] These sales tiers are substantially less than the IACs' ex-U.S. sales of OxyContin, which ranged from $310 million to $579 million per year between 2008 and 2016.[88] There is no evidence that such sales levels were ever contemplated for Hextend. Nevertheless, by applying the IACs' ex-U.S. sales of OxyContin to the Hextend License, the DeRamus Report concludes that the effective royalty rate without upfront and milestone payments is 36% of sales – the maximum royalty possible in the Hextend License – and that the effective rate with upfront and milestone payments is approximately 43% of sales.[89] There is no analysis in the DeRamus Report of the effective royalty rate actually paid, or expected to be paid, between the parties as part of the Hextend License, given the limited patient population. By failing to account for differences between the sales expectations for Hextend and OxyContin, the DeRamus Report's analysis of the Hextend License is unreliable and tends to overstate the effective rate.

60. As shown in this example, the DeRamus Report's speculative calculation of effective royalty rates results in an unreliable data set and an unreliable regression analysis based on the unreliable data set.

61. The DeRamus Report nevertheless prepares multiple regression analyses on this artificial and overstated data set of "effective royalty rates." Neither the DeRamus Report nor the associated Appendices provide a detailed description of the data model used to prepare the regression analysis cited throughout the report. There is no description of the significance or fit of the regression to the data and the data model. For example, neither the DeRamus Report nor its appendices directly disclose the R^2 or Adjusted R^2 statistics for the regression.[90]

62. Furthermore, there is not a consistent description of the independent variables used in the data model. For example, Appendix A to the DeRamus Report lists seven "Explanatory Variables" in

[83] License Agreement for Biotime Inc. and Abbott Laboratories for Hextend, 1997.
[84] Taghavi S., and Askari, R. "Hypovolemic shock," *National Center for Biotechnology Information,* accessed at: https://www.ncbi.nlm.nih.gov/books/NBK513297/.
[85] License Agreement for Biotime Inc. and Abbott Laboratories for Hextend, 1997.
[86] License Agreement for Biotime Inc. and Abbott Laboratories for Hextend, 1997.
[87] License Agreement for Biotime Inc. and Abbott Laboratories for Hextend, 1997. The license agreement does not include license fees on annual net sales under $15,000,000 and notes that "up to $37,500,000 of additional license fees" are payable based on annual net sales. See also, PPLP-CONF-000025981, tab '08 – BT-AL (1997)'.
[88] DeRamus Report, Appendix A, p. 71.
[89] DeRamus Report, Appendix A, p. 44. See also, PPLP-CONF-000025981, tab '08 – BT-AL (1997)'.
[90] I understand that certain data files, work papers, and other materials providing details on the DeRamus Report's regression and other analyses were recently produced. To date, I have not analyzed certain of these materials, including the data and detail underlying the DeRamus Report's regression analyses. Exhibit A lists the documents and other information that I have considered in forming the opinions and conclusions presented in this report.

one section, while the very next page shows regression estimates for only four independent variables and an intercept term.[91] More importantly, the "regression estimates" identified in Appendix A to the DeRamus Report indicate that none of the identified explanatory variables have an impact on the royalty rate that is statistically different than zero.[92]

63. A table in the DeRamus Report Appendix A identifies the following regression estimates:

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Regression Estimate of Market Royalty Rate Based on Public Comparables

Percentage-Point Adjustments for OxyContin Characteristics	Effective Royalty Rate (27 Agreements)	Effective Royalty Rate (37 Agreements)
Base Royalty Rate	13.8%**	18.8%***
Adjustment for Pain Product	3.2%	0.5%
Adjustment for Late Stage Product	6.8%	1.4%
Adjustment for Product Sold Ex-U.S.	-6.3%	-3.7%
Adjustment for Pill Product	7.4%	6.2%
Royalty Rate for Product Comparable to OxyContin	**24.9%**	**23.2%**

***Statistically significant at the 1% level; **Statistically significant at the 5% level
Note: Effective royalty rate (with other payments): ex-U.S. OxyContin sales for 2008 to 2018 applied to tiered royalty rates and sales milestones (upfront payments and other milestone payments are assumed to be paid in the first year)

64. Based on the analysis presented in this chart, the only regression estimates that are identified as statistically significant (meaning statistically different that zero) are for the intercept term – the "Base Royalty Rate." All others were not statistically significant indicating that they did not play a role in explaining the variation among royalty rates in the agreements. Furthermore, the Base Royalty Rates of 13.8% and 18.8% identified in the DeRamus Report analysis are generally consistent with the rates charged and paid in the relevant ex-U.S. OxyContin licenses between the IACs and Purdue Pharma.

65. The other "adjustments" listed in the above chart, in addition to not being statistically significant, are volatile between the two samples. For example, the adjustment based on the stage of the drug increases the effective royalty rate by 5 percentage points more in a sample of 27 licenses than in a sample of 37 licenses. That level of volatility based on changes in sample size calls into question the reliability of the regression output.

[91] DeRamus Report, Appendix A, pp. 38-39.
[92] DeRamus Report, Appendix A, p. 39.

66. Additionally, the DeRamus Report includes as an explanatory variable "whether the license[d] territory is outside of North America."[93] However, when presenting the regression estimates, the variable is described as the "Adjustment for Product Sold Ex-U.S."[94] The distinction between outside of North America versus outside of the U.S. is particularly important in this matter as 37% of royalties paid by the IACs to Purdue Pharma are related to sales in Canada.[95] It also appears that the DeRamus Report mischaracterized worldwide licenses as ex-U.S. licenses.[96] It is important to the regression analysis to be clear, consistent, and careful with the definitions of the geographic adjustment parameters.

67. In addition, the DeRamus Report does not identify how many of the Identified Licenses considered in the regression included each of the explanatory variables that are measured. For example, the DeRamus Report does not state how many of the 37 agreements were for "pill products" that are concluded to have a premium of 7.4%. Rather, all that is stated in the DeRamus Report is that this concluded royalty adjustment estimate is not statistically significant.

68. As presented in the foregoing paragraphs, the DeRamus Report's regression analysis suffers from methodological flaws and does not support the conclusion that the IACs' royalty payments to Purdue Pharma are outside a reasonable arm's-length range.

5. The DeRamus Report's Analysis Royalty Rates after Loss of Exclusivity Does Not Support Its Conclusions

69. The DeRamus Report recognizes that a market royalty rate would likely change following the loss of exclusivity ("LOE") of the non-ADF OxyContin product. In fact, the typical rate charged in the license agreements between Purdue Pharma and the IACs for non-ADF OxyContin decreased from 13% to 7% in 2013, following LOE.[97]

70. The DeRamus Report includes a summary of Identified Licenses that included a royalty rate after the LOE.[98] This group represents ten of the 37 Identified Licenses included in the DeRamus Report regression discussed above. For these ten licenses, the summary statistics are as follows:[99]

[93] DeRamus Report, Appendix A, p. 38.
[94] DeRamus Report, Appendix A, p. 39.
[95] DeRamus Report, Appendix A, pp. 32-33, excluding royalties from Japan.
[96] See also discussion in Section A.3, paragraph 46 and Exhibit C.
[97] DeRamus Report, p. 14. See also, PPLP-CONF-000026011, tab '2010 and 2016 royalties'.
[98] DeRamus Report, Appendix A, p. 50.
[99] DeRamus Report, Appendix A, p. 50.

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Additional Comparables With Royalty Rate After Loss of Exclusivity (LOE)

Date	Licensor	Licensee	Drug (Indication)	Minimum Royalty While Exclusive	Maximum Royalty While Exclusive	Royalty After Loss of Exclusivity	Reduction ratio
3/31/2008	Cell Genesys	Takeda Pharmaceutical Co	GVAX (prostate cancer immunotherapy)	20.0%	20.0%	5%	75.0%
12/22/2005	Atherogenics, Inc.	IPR Pharma and AstraZeneca	Compound AGI-1067 (atherosclerosis)	12.0%	22.5%	3.0-5.6%	75.0%
9/5/2007	BioDelivery Science International	Meda AB	Fentanyl (opioid pain treatment)	28.0%	28.0%	20%	28.6%
11/30/2007	Santarus, Inc.	Glaxo Group Limited	Zegerid® (proton pump inhibitor/"PPI")	17.5%	27.5%	12.5–17.5%	33.3%
4/11/2000	MGI Pharma, Inc., Merck KGaA, E. Merck	CIBA Vision AG	Pilocarpine hydrochloride (treatment for post-radiation xerostomia and xerostomia)	20.0%	20.0%	8%	60.0%
1/12/2006	Avigen, Inc.	SDI Diagnostics Intl Ltd.	Tolperisone (treatment for acute pain)	10.0%	15.0%	6.7–10%	33.3%
10/29/2003	Orphan Medical, Inc.	Celltech Pharmaceuticals, Ltd.	Xyrem (treatment for narcolepsy)	15.0%	15.0%	3–7%	66.7%
7/23/2003	EpiCept Pharma	Adolor Corp.	LidoPAIN® SP (a topical pain treatment)	10.0%	12.0%	5–6%	50.0%
3/31/2002	Scios Inc.	Glaxo Group Ltd.	Intravenous formulation of Natrecor B-type natriuretic peptide (treatment for heart conditions)	8.0%	12.0%	2–3%	75.0%
8/13/1998	Access Pharmaceuticals, Inc.	Strakan Ltd.	Topical product containing amlexanox (aphthous ulcers)	10.0%	10.0%	4%	60.0%

*Pain-related product licenses highlighted in gray.

Average (Pain)	16.0%	18.3%	11.3%	37.3%
Average (Pain + PPI)	16.4%	20.6%	12.2%	36.3%
Average (All)	15.1%	18.2%	7.8%	55.7%
Median (All)	13.5%	17.5%	5.3%	60.0%
25th Percentile (All)	10.0%	12.8%	4.5%	37.5%
75th Percentile (All)	19.4%	21.9%	8.3%	72.9%

71. In the above chart, for the group of ten licenses, the median, average, and interquartile ranges are all consistent with the 7% royalty rate generally paid by the IACs to Purdue Pharma for ex-U.S. OxyContin rights after LOE. There are only three licenses – highlighted in gray above – in the group related to pain treatment. Of those three licenses, one had lower rates, one had higher rates, and one had a rate range that would include the 7% rate paid by the IACs to Purdue Pharma for ex-U.S. OxyContin rights.

72. Additionally, the decrease in the royalty rate paid by the IACs to Purdue Pharma after LOE is consistent with the peer group. The decrease in the royalty rate paid by the IACs after LOE is 46% (a decline from 13% to 7%). That 46% decrease is within the interquartile reduction ratio range for the entire group of ten licenses and represents a larger reduction ratio decrease than two of the three licenses specifically targeting pain management drugs.

6. The DeRamus Report's Profit Split Analysis Does Not Support Its Conclusions

73. The DeRamus Report refers to a single third-party market study to support its conclusions related to the potentially appropriate profit split for the relevant license agreements between Purdue Pharma and the IACs.[100] This study, entitled "Profitability and Royalty Rates Across Industries: Some Preliminary Evidence", was published by KPMG in 2012 (the "KPMG Study").[101] There are several issues with the way this study and its purported conclusions are applied in the analysis in the DeRamus Report.

[100] See for example, DeRamus Report, Appendix A, pp. 51-52.
[101] KPMG International, "Profitability and Royalty Rates Across Industries; Some Preliminary Evidence." 2012.

74. The KPMG Study compares industry average royalty rates to industry average profitability. The study is not a comparison of the specific royalty rates paid by any company to the profitability of the specific products under license. Furthermore, when calculating the average profit margins for the industry, companies with negative margins were excluded which creates an upward bias on industry profitability.[102] In addition, the KPMG Study is an aggregate study of 14 different industries and not specific to the pharmaceutical industry.[103] In my experience royalty rates are often affected by the profitability of the industry in question and the established technology licensing practices.

75. The quantitative analysis in the KPMG Study has limited explanatory power in describing specific royalty rates. The KPMG Study indicates that less than one-third of the variability in royalty rates can be explained solely by looking at operating margin. Therefore, the remaining two-thirds of the variability in the observed royalty rates is explained by unidentified factors other than profitability.[104]

76. The authors of the KPMG Study concluded that "[royalty rates] tend to fall between 25% of gross margins and 25% of operating margins" across the industries included in the study.[105] Based on the analysis included in the DeRamus Report, the relevant IAC royalty rates fall directly between those profit measures, shown below, and therefore, are consistent with the expected range of royalty rates included in the KPMG Study.

Royalty Payments from the IACs to Purdue Pharma Indicated by the KPMG Study and IACs' Profitability as Presented in the DeRamus Report[106] *(2008 – 2016)*	
KPMG Study: 25% of IAC Gross Profit ($2,234 Million)	$559 Million
KPMG Study: 25% of IAC Product Contribution ($1,463 Million)	$366 Million
Royalties Paid by IACs to Purdue Pharma	**$485 Million**

77. Additionally, the DeRamus Report ignores the fact that the average royalty rate in the KPMG Study for the pharmaceutical industry is less than 8%.[107] The second major conclusion of the KPMG study was that "…the licensing market is efficient, and differences in the costs and

[102] KPMG International, "Profitability and Royalty Rates Across Industries; Some Preliminary Evidence." 2012, p. 6.
[103] KPMG International, "Profitability and Royalty Rates Across Industries; Some Preliminary Evidence." 2012, p. 6.
[104] The KPMG Study includes a regression analysis with an R^2 value of 0.319 for the independent variable "EBIT Margin." KPMG International, "Profitability and Royalty Rates Across Industries; Some Preliminary Evidence." 2012, p. 11.
[105] KPMG International, "Profitability and Royalty Rates Across Industries; Some Preliminary Evidence." 2012, Foreword.
[106] DeRamus Report, Appendix A, p. 71.
[107] KPMG International, "Profitability and Royalty Rates Across Industries; Some Preliminary Evidence." 2012, pp. 9 and 12.

profitability across industries seem to have been factored into royalty rate negotiations."[108] This implies that the average royalty rate of less than 8% takes into account the industry average profitability as a whole. Therefore, the royalty rates paid by the IACs to Purdue Pharma for ex-U.S. OxyContin are consistent with the KPMG Study's observations of rates in the pharmaceutical industry.

78. Lastly, the DeRamus Report also cites various agreements entered into by Purdue Pharma, as well as IAC third-party licenses, as purported support for the profit split analysis.[109] However, the DeRamus Report fails to provide a meaningful analysis of these agreements, nor does it explain why these agreements are relevant given that many are development, collaboration, or co-promotion agreements—the very types of agreements that the DeRamus Report excludes from consideration in its analysis of potentially comparable agreements for purposes of its regression analysis.[110]

79. The above analysis demonstrates the DeRamus Report's profit split analysis is unreliable and does not support its conclusion that the IACs' royalty payments to Purdue Pharma are outside a reasonable arm's-length range.

7. The DeRamus Report Fails to Properly Analyze Other Factors that Would Affect the Royalties Paid for Ex-U.S. OxyContin Rights

80. Other factors may affect the consideration provided for rights to use intellectual properties related to pharmaceutical products. Although the DeRamus Report identifies certain of these factors, it does not properly account for factors that may have affected the consideration provided to Purdue Pharma for ex-U.S. rights relating to OxyContin. Such factors may include:

- Contributions by the IACs: The DeRamus Report agrees that "if Mundipharma contributed significantly to the development of OxyContin, it may reduce the estimated royalty rate." This contribution could include research and development and/or commercializing OxyContin in foreign markets.[111]

- Parties' Expectations: The DeRamus Report notes that the difference between the parties' expectations at the time(s) they entered into agreement(s) and the actual results from selling OxyContin could affect both the profit sharing analysis and the calculated effective royalty analysis.[112]

- Shared Resources and Marketing: The DeRamus Report acknowledges that there may have been added benefits to Purdue Pharma by licensing the IACs, including shared resources and consistent marketing in foreign markets. These benefits may have been unavailable in a third-party, arm's-length transaction and may suggest that a lower royalty rate would be appropriate.[113]

[108] KPMG International, "Profitability and Royalty Rates Across Industries; Some Preliminary Evidence." 2012, p. 12.
[109] DeRamus Report, Appendix A, pp. 51-54.
[110] See, for example, PPLPUCC003785780-930.
[111] DeRamus Report, Appendix A, p. 77.
[112] DeRamus Report, Appendix A, p. 78.
[113] DeRamus Report, Appendix A, p. 79.

- Availability of Generic Alternatives: The DeRamus Report recognizes that the "availability of generic alternatives for non-ADF OxyContin in ex-U.S. markets after LOE [loss of exclusivity] introduces additional complexity in determining [the] optimal royalty rate for the IACs."[114] However, neither the regression analysis nor the profit split analysis described in the DeRamus Report takes these "added complexities" into account directly.

- Additional Information on the Identified Licenses: The effect of having additional information on the profitability of potentially comparable products could impact the royalty rate.[115] In addition, as discussed above, there may be additional licenses that can be considered for comparable products that were excluded from the DeRamus Report's analysis.

81. In addition, the DeRamus Report provides a list of "other factors [that] can also impact royalty rates" including "value of brand equity, relative bargaining position, relative ease or difficulty of local regulatory/compliance processes, etc."[116] Again, neither the regression analysis or the profit split analysis included in the DeRamus Report directly analyzes or accounts for any of these factors.

8. Conclusion

82. The DeRamus Report concludes that the total underpayment from the IACs to Purdue Pharma on ex-U.S. OxyContin royalties from 2008 through September 15, 2019 amounts to $486 million.[117] This calculation is based on the DeRamus Report's conclusion that "market" royalty rates for ex-U.S. OxyContin rights would be 25% prior to loss of exclusivity and 12.5% after loss of exclusivity.[118] This is in contrast to the actual rates paid of 13% to 15% for patented OxyContin and 7% for non-ADF in their respective markets.

83. Based on my analysis, I have concluded that the DeRamus Report's analysis and conclusions regarding ex-U.S. OxyContin royalties and the related value is methodologically improper, speculative, and inconsistent with the facts. In particular, the DeRamus Report does not properly consider a relevant arm's-length license for OxyContin, which includes royalties that are consistent with those paid by the IACs, and is based on methodologically flawed regression and profit split analyses. Accordingly, the DeRamus Report's analyses does not support the conclusion that the IACs' royalty payments to Purdue Pharma are outside a reasonable arm's-length range.

[114] DeRamus Report, Appendix A, p. 79.
[115] DeRamus Report, Appendix A, p. 78.
[116] DeRamus Report, Appendix A, p. 79.
[117] DeRamus Report, p. 11; DeRamus Report, Appendix A, p. 6.
[118] The DeRamus Report adds approximately 1.5% to the royalty rates for a purported "R&D Adjustment." See DeRamus Report, Appendix A, p. 73. This R&D adjustment is speculative and unsupported. It further inflates the royalty rate used to calculate the alleged underpayment by the IACs relative to the royalty rates in the Identified Licenses.

B. Valuation of Purdue Pharma's Transfer of Non-ADF OxyContin Rights

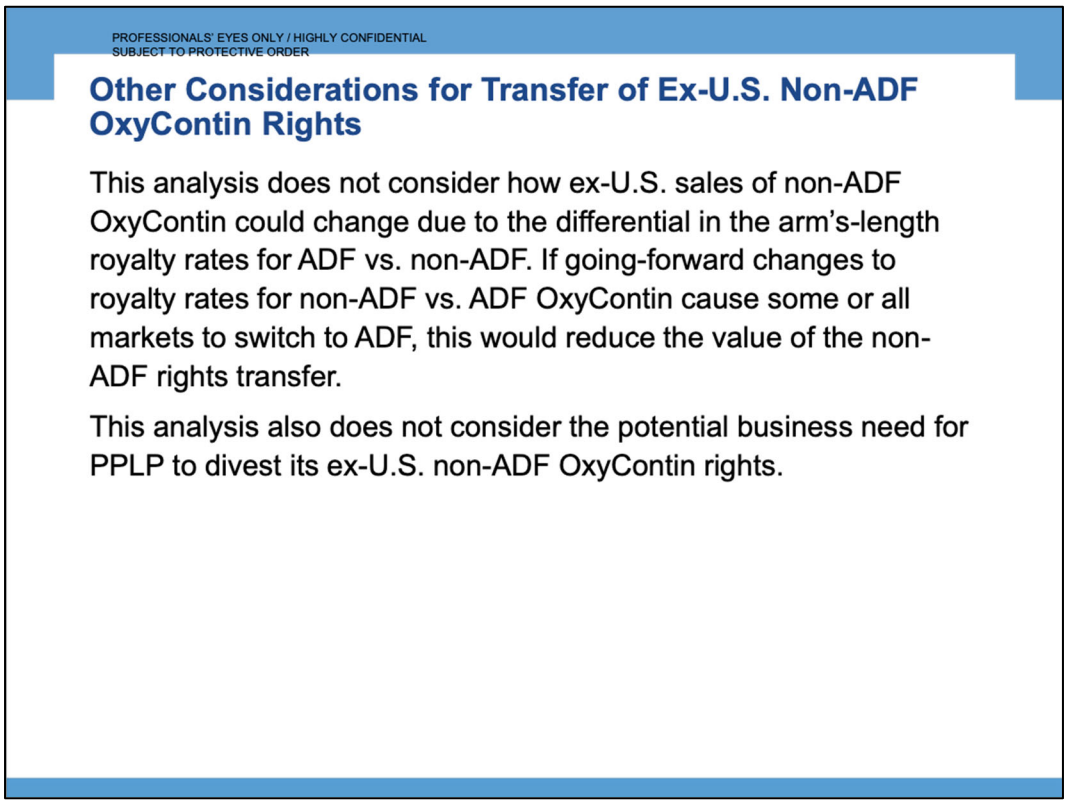
84. The DeRamus Report values the transfer of non-ADF OxyContin rights from Purdue Pharma to PRA L.P. as of January 1, 2017.[119] The DeRamus Report determines the present value of these rights to be $252 million based on a discounted cash flow ("DCF") analysis.[120]

85. The DCF analysis in the DeRamus Report is overstated and assumes that a royalty rate of 12.5% would apply to non-ADF OxyContin after the LOE. As discussed at length in Section A above, the regression and related analyses used to determine that 12.5% "market" rate in the DeRamus Report are methodologically improper, speculative, and inconsistent with the facts. Making only one change to the analysis in the DeRamus Report, specifically using the actual royalty rates instead of the concluded "market" rate, reduces the value of the transfer by nearly 39% to approximately $154 million.[121]

86. The DeRamus Report determines the value of the transferred rights on a pre-tax basis. The only explanation provided in the DeRamus Report for performing the valuation on a pre-tax basis is that the transfer was structured as a non-tax transfer. However, when valuing intangible assets, it is common practice in the valuation profession to include the impact of taxes and value intangible assets on an after-tax basis. Adjusting the DCF in the DeRamus Report to be on an after-tax basis would further reduce the value of the assets transferred.

87. The DeRamus Report also identifies "Other Considerations" that may impact the DCF valuation but does not discuss the effect of these factors on the valuation analysis.[122]

[119] DeRamus Report, Appendix A, p. 107.
[120] DeRamus Report, Appendix A, p. 107.
[121] DeRamus Report, Appendix A, p. 122. See also, PPLP-CONF-000025998, tab 'NPV model'. As shown, the "total arm's-length royalties" line for non-ADF OxyContin equals $410.5 million using a royalty rate of 12.5%. The present value of this line, as of January 1, 2017, is shown as $251.8 million. The "total royalties" line using the "actual royalty rate" for non-ADF OxyContin sums to $253.1 million. The DeRamus Report used a discount rate of 9%, a growth rate of -10%, and a discount period calculation to calculate the present value of the "total arm's-length royalties" (or "Royalties (Adjusted)"). The present value of the "total royalties" line, which represents the actual royalties for sales of non-ADF OxyContin, can be calculated by applying these same variables to the "total royalties" line.
[122] DeRamus Report, Appendix A, p. 124.



88. For at least the reasons presented above, the valuation of the transfer of the Non-ADF OxyContin rights in the DeRamus Report is speculative, incomplete, and overstated.

C. Analyses of Other Transfers and Royalty Payments

89. The DeRamus Report also includes analyses of several other royalty transactions for products other than OxyContin. These products include Betadine, Senokot, MS Contin, Butrans, and Dilaudid. When analyzing these agreements, the DeRamus Report does not rely upon the regression analysis used to evaluate the OxyContin royalties, but instead relies primarily on the profit split method.[123] The DeRamus Report does not explain the reasons for this change in methodology.

90. In addition to using the profit split method instead of the regression method, the analysis of these other royalty transactions in the DeRamus Report concludes Purdue Pharma "was not disadvantaged under the related-party license agreements relative to benchmarks from arm's-length agreements."[124] In fact, in several of these analyses, the DeRamus Report concludes that Purdue Pharma paid less than it would have paid in royalties if the royalty rate were set to be a "market rate." Rather than actually calculate Purdue Pharma's underpayment, the DeRamus Report concludes simply that Purdue Pharma was not disadvantaged. By failing to calculate the underpayment by Purdue Pharma, the DeRamus Report overstates the asserted $1.4 billion in

[123] DeRamus Report, p. 7.
[124] DeRamus Report, Appendix A, p. 81.

concluded underpayments to Purdue Pharma and transfers of value to related parties outside the Debtor Group.

91. Furthermore, several of these agreements specify royalty rates and/or profit splits that are consistent with, or lower than, the royalty rates for ex-U.S. OxyContin rights paid by the IACs to Purdue Pharma. These royalty rates are not consistent with DeRamus Report's concluded "market rate" of 25% of net sales. For example:

- Betadine and Senokot: The royalties paid by Purdue Pharma for Betadine and Senokot were 5% of net sales. For Betadine, Purdue Pharma maintained 85% of the profits as the licensee, while for Senokot, Purdue Pharma maintained closer to 87% of the profit as the licensee.[125]

- MS Contin: As the licensee, Purdue Pharma retained 85% of the profit, while Mundipharma retained only 15% of the profits as the licensor.[126]

- Dilaudid: The DeRamus Report describes the royalty payments to Purdue Pharma relating to Dilaudid as follows: "Royalty payments at a royalty rate of 10% of net sales during 2010–2015, *i.e.*, similar to the related party royalty rate paid by [Purdue Pharma] on its sales of MS Contin, or the upper end of comparable third-party royalty rates for a mature, well-established product with ample substitutes."[127]

92. The DeRamus Report does not attempt to reconcile the analysis of these agreements that are determined to not have disadvantaged Purdue Pharma with the analysis of the ex-U.S. OxyContin license agreements with the IACs discussed above.

VI. Exhibits

93. I expect to use this report and the related attached exhibits as my direct testimony at trial. To the extent necessary, I may also consider the reports or exhibits prepared by other expert(s) in support of any testimony that may be offered at trial. In addition, documents listed in Exhibit A may also be used as exhibits. However, a final determination of the documents and exhibits that may be used at trial has not been made. Additional demonstrative exhibits to be used at trial will be provided in accordance with the schedule provided by the Court.

Philip Green
Date: July 6, 2021

[125] DeRamus Report, Appendix A, pp. 88-89.
[126] DeRamus Report, Appendix A, p. 94.
[127] DeRamus Report, Appendix A, p. 105.

Exhibit A

Documents Considered

Court Documents and Pleadings

Amended and Restated Case Stipulation Among the Debtors, the Official Committee of Unsecured Creditors and Certain Related Parties dated Nov. 20, 2019 [Dkt. No. 518]
Amended Disclosure Statement for First Amended Chapter 11 Plan for Purdue Pharma L.P. and its Affiliated Debtors dated April 30, 2021 [Dkt No. 2789-1]
Purdue Pharma L.P., *et al.* 's Voluntary Petition for Non-Individuals Filing for Bankruptcy dated Sept. 15, 2019, [Dkt Nos. 1-24]

Expert Reports

Expert Report of David W. DeRamus, PHD, June 15, 2021, and Appendices
Expert Report of Mark F. Rule, CFA, June 15, 2021, and Appendices
Expert Report of Richard A. Collura, CPA, CIRA, CFE, CFF, June 15, 2021, and Appendices

Public Source Documents

2007 LES BioPharmaceutical Royalty Rates and Deal Terms Survey, *Licensing Executives Society (U.S.A. & Canada)* , Inc. (2008)
2016 Global "Life Sciences" Royalty Rates & Deal Terms Survey, *Licensing Executives Society USA/Canada,* (2017)
BioTime's Form 10-Q for the quarterly period ended March 31, 2000
Cell Genesys, Inc.'s Form 8-K for the quarter ended March 31, 2008
Elite Pharmaceuticals' 10-K for the fiscal year ended March 31, 2010
KPMG International, "Profitability and Royalty Rates Across Industries; Some Preliminary Evidence," (2012)
Lingand Pharmaceuticals, Inc.'s Form 8-K dated September 6, 2006
McCarthy, J., and Bonifant, B. "A Review of the Global BioPharmaceutical Royalty Rates and Deal Terms Survey: Licensing Executives Society (U.S.A. and Canada), Inc. and Licensing Executives Society International (LESI)," l*es Nouvelles* (2011)
Mundipharma, "About Us," (2015)
Mundipharma, "Mundipharma at a Glance," (2021)
Robertson, K. "Aphton Signs Up with Drug Giant," *Sacramento Business Journal* (1998)
Taghavi S., and Askari, R. "Hypovolemic shock," *National Center for Biotechnology Information*
Treximet® Product Line of Glaxo Group Ltd. Statement of Assets Acquired

Documents Produced

IACS_0001254692-722
IACS_0001254589-679
IACS_0001254578-587
IACS_0001250303-347
IACS_0001250348-393
IACS_0001250583-624
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PPLP-CONF-000026038
PPLP-CONF-000026039
PPLP-CONF-000026040
PPLP-CONF-000026041

Exhibit A

Documents Considered

Publicly Available License Agreements

Amended and Restated Distribution and License Agreement between XenoPort, Inc. and Astellas Pharma Inc. dated May 15, 2009
Amended and Restated License and Supply Agreement between Novartis AG, Sandoz, Inc. and Endo Pharmaceuticals, Inc. dated December 15, 2015
Development and License Agreement between Eli Lilly and Company and Neurogenics, Inc. dated April 21, 2003
Development and Marketing Strategic Alliance Agreement between SkyPharma, Inc. and Endo Pharmaceuticals, Inc. dated December 31, 2002
Distribution and License Agreement between NPS Allelix Corp. and Nycomed Danmark ApS dated April 20, 2004
Exclusive License Agreement between Depomed, Inc. and Solvay Pharmaceuticals, Inc. dated November 19, 2008
First Amended Distribution and License Agreement between NPS Allelix Corp. and Nycomed Danmark ApS dated July 1, 2004
Know-How and Trademark License and Supply Agreement between Labratories Thea, S.A. and Sirion Therapeutics, Inc. dated January 10, 2007
License Agreement between BioSante Pharmaceuticals, Inc. and Azur Pharma International II Limited dated December 3, 2008
License Agreement between Connetics Corp. and Pierre Fabre Dermatologie dated September 29, 2004
License Agreement between Elite Pharmaceuticals, Inc. and Epic Pharma LLC dated June 4, 2015
License Agreement between Epicept Corp. and Endo Pharmaceuticals, Inc. dated December 18, 2003, and Amendment dated July 7, 2015
License Agreement between Epicept Corp. and Adalor Corp. dated July 23, 2003
License Agreement between MGI PHARMA, INC. and CIBA Vision AG dated April 11, 2000
License Agreement between Novartis Pharma AG and Questcor Pharmaceuticals, Inc., Akasia Limited dated June 11, 2013
License Agreement between Pain Therapeutics, Inc. and King Pharmaceuticals, Inc. dated December 29, 2005
License Agreement between Santarus, Inc. and Glaxo Group Limited dated November 30, 2007
License Agreement between Shore Therapeutics, Inc., Cowen Healthcare Royalty Partners, L.P. and Santarus, Inc. dated December 21, 2011
License Agreement between Urigen Pharmaceuticals, Inc. and Impremis Pharmaceuticals, Inc. dated October 24, 2014
License Agreement between Vernalis Development Limited and Endo Pharmaceuticals, Inc. dated July 14, 2004
License Agreement Cytogen Corporation between and Berlex Labratories, Inc. dated October 28, 1998
License and Co-Development Agreement between Progenics Pharma, Inc. and Wyeth dated December 23, 2005
License and Collaboration Agreement between Atherogenics, Inc. and IPR Pharma and AstraZeneca dated December 22, 2005
License and Commercialization Agreement between Amgen, Inc. and Intermune, Inc. dated June 15, 2001
License and Development Agreement between BioDelivery Sciences International, Inc. and Meda AB dated August 2, 2006
License and Development Agreement between BioDelivery Sciences International, Inc. and Meda AB dated September 5, 2007
License and Distribution Agreement between Leo Pharmaceutical Products Ltd A/S and Pharmion Corporation dated June 21, 2002
License and Supply Agreement between Access Pharmaceuticals and Discus Dental, Inc. dated April 15, 2005, and Amendment dated November 18, 2005
License and Supply Agreement between Amarillo Biosciences, Inc. and Bumimedic (Malaysia) SDN. BHD dated January 18, 2006
License and Supply Agreement between Novartis Consumer Health, Inc. and Endo Pharmaceuticals, Inc. dated March 4, 2008
License and Supply Agreement between Scios, Inc. and Glaxo Group Limited dated March 31, 2002
License, Development and Commercialization Agreement between Acura Pharmaceuticals and King Pharmaceuticals, Inc. dated October 30, 2007
Licensing Agreement between Access Pharmaceuticals, Inc. and Strakan Ltd., and Amendment dated August 11, 1998
Licensing and Distribution Agreement between Collegium Pharmaceutical, Inc. and Teamm Pharmaceuticals, Inc. dated November 22, 2005
Patent and Know-How License, Development, and Commercialization Agreement between SDI Diagnostics International LTD and Avigen, Inc. dated January 12, 2006
Product License and Supply Agreement between CollaGenex Pharmaceuticals, Inc. and MediGene AG dated January 1, 2007
XYREM License and Distribution Agreement between Orphan Medical, Inc. and Celltech Pharmaceuticals, Ltd. Dated October 29, 2003

Philip Green, CPA, CMA, ASA

Principal, Hoffman Alvary & Company LLC

Exhibit B

Philip Green is an expert in valuing and accounting for intellectual properties and intangible assets. For more than thirty years, much of his work has pertained to pharmaceutical and biotechnology companies, hardware and software developers, and consumer products industries. Mr. Green has testified at trials in state and federal courts and in arbitration proceedings on over fifty occasions, as well as regularly teaching legal CLE's and serving as a guest lecturer at law schools.

Professional Experience

Intangible Valuation

- Valuing patents, copyrights, trademarks, and other intangibles in connection with transactions
- Providing fairness opinions related to transfers of intangible assets
- Valuing equity interests in technology companies in connection with shareholder disputes
- Analyzing consideration and licensing terms in connection with "pay-for-delay" claims

Analysis of Infringement and Misappropriation Damages

- Evaluating reasonable royalties in connection with patent infringement claims
- Analyzing lost profits from infringement of intellectual properties, contract breaches, and other causes of action
- Computing unjust enrichment in connection with trade secret, copyright and trademark infringements, and unfair competition claims

Other Consulting Related to Intangibles

- Licensing assistance including developing licensing strategies, identifying potential licensees, and negotiation
- Commercial success related to the use of a patented technology
- Issues before the ITC including domestic industry, remedy and bonding
- Royalty auditing on behalf of licensors

Investigative and Forensic Accounting

- Investigative and forensic accounting analyses in connection with breach of fiduciary duty and negligence claims, and bankruptcies
- Evaluations of solvency in connection with bankruptcy actions

Prior to founding Hoffman Alvary in 1996, Mr. Green was a senior manager at Price Waterhouse LLP. He also was an executive consultant at Peterson Consulting and began his career as a staff accountant at Ernst & Whinney.

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Education & Certifications

Rutgers University
M.B.A., Accounting
B.A., History

Certified Public Accountant
Registered to Practice by the State of New York

Certified Management Accountant

Accredited in Business Valuation by the AICPA ("ABV")

Accredited Senior Appraiser Business Valuation ("ASA")

Professional Memberships

Member, American Institute of Certified Public Accountants

Member, New York State Society of Certified Public Accountants

Member, Institute of Certified Management Accountants

Member, American Society of Appraisers

Member, Licensing Executive Society

Hoffman Alvary

Philip Green, CPA, CMA, ASA

Exhibit B

Principal, Hoffman Alvary & Company LLC

Testimony: January 2017 – Present

- *Greatbatch, Inc. v. AVX, Inc., Federal Court – District of Delaware – Deposition and Trial before Judge Stark
- *Bombardier Recreational Products, Inc. v. Arctic Cat, Inc., Federal Court – District of Minnesota – Deposition and Trial before Judge Tunheim
- *Solutran, Inc. v. U.S Bank et al., Federal Court – District of Minnesota – Deposition and Trial before Judge Nelson
- *Certain Mobile and Portable Electronic Devices Incorporating Haptics (Including Smartphones and Laptops) and Components Thereof, Investigation No. 337-TA-1004/990, International Trade Commission – Deposition and Hearing before Chief Judge Bullock
- *Certain Hybrid Electric Vehicles and Components Thereof, Investigation No. 337-TA-998, International Trade Commission – Deposition
- *Certain Access Control Systems and Components Thereof, Investigation No. 337-TA-1016, International Trade Commission – Deposition and Hearing before Judge Pender
- *Malibu Boats, LLC v. MasterCraft Boat Company, LLC, Federal Court – Eastern District of Tennessee – Deposition
- *Chapco, Inc. and Samsara Fitness, LLC v. Woodway USA, Inc., Federal Court – District of Connecticut – Deposition
- *Zoetis LLC et al. v. Roadrunner Pharmacy, Inc., Federal Court – District of New Jersey – Deposition
- *IPS Group, Inc. v. Duncan Parking Solutions, Inc. et al., Federal Court – Southern District of California – Deposition
- *Certain Hybrid Electric Vehicles and Components Thereof, Investigation No. 337-TA-1042, International Trade Commission – Deposition and Hearing before Judge Shaw
- *Pacific Packaging Products, Inc. v. Packing Partners, LLC et al., Superior Court – Middlesex County Massachusetts – Deposition
- In re Namenda Direct Purchaser Antitrust Litigation, Federal Court – Southern District of New York – Deposition
- *Certain Dental Ceramics, Products Thereof, and Methods of Making the Same, Investigation No. 337-TA-1050, International Trade Commission – Deposition
- *DSM IP Assets, B.V. et al. v. Lallemand Specialties, Inc. & Mascoma LLC, Federal Court – Western District of Wisconsin – Deposition and Trial before Judge Conley
- *Cellular Communications Equipment LLC v. HTC Corporation, HTC America, Inc., ZTE (USA), Inc., Federal Court – Eastern District of Texas – Deposition

**Denotes matter involving intellectual property*

Philip Green, CPA, CMA, ASA
Principal, Hoffman Alvary & Company LLC

Exhibit B

- Concordia Pharmaceuticals Inc., S.À.R.L. v. Winder Laboratories, LLC, and Steven Pressman, Federal Court – Northern District of Georgia – Deposition
- *Eagle View Technologies, Inc. v. Xactware Solutions, Inc., and Verisk Analytics, Inc., Federal Court – Northern District of New Jersey – Deposition and Trial before Judge Bumb
- *Certain Color Intraoral Scanners and Related Hardware and Software, Investigation No. 337-TA-1091, International Trade Commission – Deposition and Hearing before Judge Cheney
- *Certain Intraoral Scanners and Related Hardware and Software, Investigation No. 337-TA-1090, International Trade Commission – Deposition and Hearing before Judge Lord
- America's Test Kitchen Inc., as the Sole General Partner of America's Test Kitchen Limited Partnership, v. Christopher Kimball, CPK Media, LLC, Melissa Baldino, Christine Gordon, Deborah Broide doing business as Deborah Broide Publicity, CPK Holdco, LLC and William Thorndike, Superior Court – Suffolk County Massachusetts – Deposition
- REXA, Inc. v. Mark Vincent Chester and MEA Inc., Federal Court – Northern District of Illinois – Deposition
- Malden Transportation, Inc. et al. v. Uber Technologies, Inc., Federal Court – District of Massachusetts – Deposition
- Merck & Co., Inc. and Merck Sharp & Dohme Corp. v. Merck KGaA, Federal Court – District of New Jersey – Deposition
- *Certain Infotainment Systems, Components Thereof, and Automobiles Containing the Same, Investigation No. 337-TA-1119, International Trade Commission – Deposition and Hearing before Judge Lord
- In Re: Loestrin 24 Fe Antitrust Litigation, Federal Court – District of Rhode Island – Deposition
- Arbor Pharmaceuticals, Inc., v. ANI Pharmaceuticals, LLC, Federal Court – District of Minnesota – Deposition
- *Certain Motorized Vehicles and Components Thereof, Investigation No. 337-TA-1132, International Trade Commission – Deposition
- *Certain Dental and Orthodontic Scanners and Software, Investigation No. 337-TA-1144, International Trade Commission – Deposition and Hearing before Judge McNamara
- *Balchem Corporation and Albion Laboratories, Inc. v. Daniel Todd Edwards and Mil Agro, Inc., Federal Court – Southern District of New York – Deposition
- *LBI, Inc. v. Jared Sparks, Jay Williams, and Charles River Analytics, Inc., Superior Court – New London, Connecticut – Deposition
- *IPS Group, Inc. v. Duncan Parking Solutions, Inc. et al., FEDARB – Provided testimony in arbitration proceedings before Judge Folsom

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Exhibit B

- *Astellas Institute for Regenerative Medicine, Stem Cell & Regenerative Medicine International, Inc., v. ImStem Biotechnology, Inc., et. al., Federal Court – District of Massachusetts – Deposition and Trial before Judge Burroughs
- *Agilent Technologies, Inc. v. Twist Bioscience Corp., Emily Leproust, et. al., Superior Court – County of Santa Clara, California – Deposition
- *Align Technology, Inc. v. 3Shape A/S, 3Shape TRIOS A/S, and 3Shape Inc., Federal Court – District of Delaware (17-cv-01646) – Deposition
- *Certain Light-Emitting Diode Products, Systems, and Components Thereof (II), Investigation No. 337-TA-1164, International Trade Commission – Deposition
- Petrucci v. Esdaile et al. - Superior Court – Sussex County Massachusetts –Trial before Judge Salinger
- *Sol IP LLC v. AT&T Mobility LLC et al. – Federal Court – Eastern District of Texas – Deposition
- *Myers Power Products, Inc. v. Pioneer Power Solutions, Inc., et. al., Superior Court – County of Los Angeles, California – Deposition
- *Escort Inc. v. Uniden America Corporation, Federal Court – Northern District of Texas, Dallas Division – Deposition
- *SAS Institute Inc. v. World Programming Limited, et al, Eastern District of Texas, Marshall Division – Deposition
- *Deltona Transformer Corporation v. The NOCO Company, Federal Court - Middle District of Florida, Orlando Division – Deposition
- *Align Technology, Inc. v. 3Shape A/S, 3Shape TRIOS A/S, and 3Shape Inc., Federal Court –District of Delaware (17-cv-01647) – Deposition
- *Malibu Boats, LLC, v. Skier's Choice, Inc., Federal Court – Knoxville Division – Deposition and Trial before Judge McCalla
- *Chicago Mercantile Exchange Inc. v. ICE Clear US, Inc. *et al.*, Federal Court – Northern District of Illinois – Deposition and Trial before Judge Kennelly
- In re Namenda Indirect Purchaser Antitrust Litigation, Federal Court – Southern District of New York – Deposition
- *Acushnet Company, v. Callaway Golf Company, Arbitration proceedings before Honorable Faith S. Hochberg, Andrew Maslow, and Roger W. Parkhurst – Deposition
- *3Shape A/S, 3Shape TRIOS A/S, and 3Shape Inc. v. Align Technology, Inc. Federal Court –District of Delaware (19-cv-0886) – Deposition

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Exhibit B

- *Baxter International, Inc. v. Carefusion Corp. and Becton, Dickinson and Company – Federal Court, Northern District of Illinois, Eastern Division - Deposition
- *Densys, LTD. v. 3Shape TRIOS A/S and 3Shape A/S – Federal Court, Western District of Texas, Waco Division – Deposition
- *Certain Electronic Stud Finders, Metal Detectors and Electrical Scanners – Investigation No. 337-TA-1221 International Trade Commission – Deposition

**Denotes matter involving intellectual property*

Exhibit C

The DeRamus Report's Summary of the Indicated 37 Comparable Agreements for Royalty Rates for OxyContin

				As Shown in the DeRamus Report and Appendices			
Year [1]	Licensor [1]	Licensee [1]	Drug (Indication) [1]	Therapeutic Area [2]	Average Minimum and Maximum Rates as % of Sales [1]	Ex-US Designation [2]	Licensed Territory per Agreement [3]
2015	Elite Pharmaceuticals, Inc.	Epic Pharma LLC	Oxycodone HCl IR with sequestered naltrexone (an opioid pain treatment)	Pain	50%		United States
1997	BioTime Inc.	Abbott Laboratories	Hextend (increases volume of blood plasma)	Other	21%		United States and territories, Canada
2002	SkyPharma Canada, SkyePharma	Endo	DepoMorphine™ and Propofol IDD-D™	Pain	40%		United States and Canada
1998	Aphton Corp.	SmithKline Beecham	Gonadimmune®	Other	48%	Ex-US	Worldwide
2002	Leo Pharamceutical Products Ltd. A/S	Pharmion Corporation	Pharmaceutical products containing tinzaparin sodium (for parenteral use known as INNOHEP)	Other	33%		United States and territories
2006	BioDelivery Sciences International, Inc.	Meda AB	BEMA fentanyl product (opioid pain treatment)	Pain	33%	Ex-US	Ex-US (list of countries included)
2007	BioDelivery Service International	Meda AB	Fentanyl (opioid pain treatment)	Pain	28%		United States, Canada, and Mexico
2004	Vernalis PLC	Endo Pharmaceuticals	Frova (frovatriptan succinate) (migraine)	Pain	20%		United States (including territories), Canada, Mexico
2007	Santarus Inc.	Glaxo Group Limited	Zegerid® (proton pump inhibitor)	Other	23%	Ex-US	Ex-US (list of countries included)
1998	Cytogen Corporation	Berlex Labratories, Inc.	Quadramet (treatment for bone related cancers)	Pain	25%	Ex-US	United States (and territories), Canada, Latin America
2005	Atherogenics, Inc.	IPR Pharma and AstraZeneca	Compound AGI-1067, AGI-1067 is an investigational oral drug for the treatment of atherosclerosis, the underlying disease process that leads to ehart attacks and strokes. At time of agreement, it was in Phase III.	Other	17%	Ex-US	Worldwide
2011	Shore Therapeutics, Inc., Cowen Healthcare Royalty Partners, L.P.	Santarus, Inc.	Fenofibrate products (reduces cholesterol)	Other	15%		United States and territories, Puerto Rico
2005	Progenics Pharma., Inc.	Wyeth	R-MNTX for use in post-operative bowel dysfunction and opioid-induced constipation	Other	20%	Ex-US	Worldwide
2008	Cell Genesys	Takeda Pharmaceutical Co	GVAX	Other	20%	Ex-US	Worldwide, includes provisioins for US and ex-US
2006	Ligand Pharma., Inc.	King Pharma., Inc.	Avinza (morphine sulfate ER)	Pain	10%		United States and territories, Canada
2005	Pain Therapeutics, Inc.	King Pharma., Inc.	Tamper-resistant opioids, including Remoxy. Included use of SABER technology.	Pain	19%	Ex-US	Australia and New Zealand
2003	Pozen	GlaxoSmithKline	Treximet (migraine) (injection)	Pain	18%		United States
2015	Novartis, AG, Sandoz, Inc.	Endo Ventures Limited	Voltaren® Gel diclofenac sodium topical gel 1% (pain treatment)	Pain	20%		United States
2000	MGI PHARMA, INC., Merck KGaA, E. Merck	CIBA Vision AG	Pilocarpine hydrochloride (treatment for post-radiation xerostomia and xerostomia)	Other	20%	Ex-US	Ex-US (list of countries included)

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2005	Collegium Pharmaceutical, Inc.	Teamm Pharmaceuticals, Inc.	AllerNase AQ (allergy nasal spray)	Other	20%		United States
2006	Amarillo Biosciences, Inc.	Bumimedic (Malaysia) Son. BHD	Formulation or composition containing IFN (treatment for influenza)	Other	20%	Ex-US	Malaysia
2004	NPS Allelix Corp., Nycomed Danmark APS	Nycomed Danmark APS, NPS Allelix Corp.	Recombinant human parathyroid hormone (treatment for hypoparathyroidism)	Other	16%	Ex-US	EU, European countries outside EU, CIS, and Turkey
2013	Novartis AG, Novartis Pharma AG	Akasia Limited, Questcor Pharmaceuticals, Inc.	Synacthen and Synacthen Depot (conditions for which glucocorticoids are indicated)	Other	12%		United States
2006	SDI Diagnostics International LTD	Avigen, Inc.	Tolperisone (treatment for acute pain)	Pain	13%		North America, including the US, its territories and possessions, Canada, and Mexico
2003	Orphan Medical, Inc.	Celltech Pharmaceuticals, Ltd.	Xyrem (treatment for narcolepsy)	Other	15%	Ex-US	Europe (list of countries included)
2005	Access Pharmaceuticals, Inc.	Discus Dental Inc.	Apthasol and OraDisc A (aphthous ulcers)	Other	15%		United States
2007	CollaGenex Pharmaceuticals, Inc.	MediGene AG	Controlled-release doxycycline (treatment for infections)	Other	14%	Ex-US	Ex-US (list of countries included)
2014	Urigen Pharmaceuticals, Inc.	Imprimis Pharmaceuticals, Inc.	Products containing alkalinized lidocaine and Heparine (for treatment of lower tract disorders)	Other	18%		United States and territories
2003	Eli Lilly & Co.	Neurogenetics, Inc.	LY293558, a small molecule compound for post-operative pain, migraines, and epilepsy (appears to be subcutaneous per a clinical trial but unclear what final form was)	Pain	13%	Ex-US	Worldwide
2002	Scios, Inc.	Glaxo Group LTD., Scios, Inc.	Intravenous formulation of Natrecor B-type natriuretic peptide (treatment for heart conditions)	Other	10%	Ex-US	Europe (list of countries included)
2004	Connetics Corporation	Pierre Fabre Dermatologie	Clobetasol Propionate Mousse (prevention of skin dermatoses)	Other	13%	Ex-US	Ex-US (list of countries included)
2003	Epicept Pharma	Adolor Corporation	LidoPAIN® SP (a topical pain treatment)	Pain	11%		United States, Canada, and Mexico
2003	Epicept Corporation	Endo Pharmaceuticals Inc.	LidoPAIN® BP (a topical pain treatment)	Pain	10%	Ex-US	Worldwide
2008	BioSante Pharmaceuticals, Inc., Antares Pharma IPL AG, Permatec Techologie, AG	Azur Pharma International II Limited	Elestrin (transdermal gel preparations for menopause)	Other	10%	Ex-US	United States and territories
1998	Access Pharmaceuticals, Inc.	Straken Ltd.	Topical product containing amlexanox (aphthous ulcers)	Other	10%	Ex-US	United Kingdom and Republic of Ireland
2007	Laboratories Thea S.A.	Sirion Therapeutics Inc.	Ophthalmic product (treatment of viral kerato-conjunctivitus)	Other	10%		United States and territories
2001	Amgen Inc.	Intermune, Inc.	Infergen (used for gene therapy)	Other	7%		United States and Canada

Sources/Notes:

[1] DeRamus Report, Appendix A, pp. 44-46.

[2] PPLP-CONF-000025975, tab 'Exclusivity'. Therapeutic Area and Ex-US are noted as explanatory variables included in the regression model. See DeRamus Report, Appendix A, p. 38.

[3] The Indicated "37 Comparable licenses" in the DeRamus Report are noted as publicly available.